Aim

To create a Pandas program that generates a line plot of historical stock prices for Alphabet Inc. between two specific dates using sample data.

Algorithm

1. Import necessary libraries (Pandas and Matplotlib)
2. Create a sample DataFrame with date and stock price data
3. Convert the 'Date' column to datetime type
4. Set the 'Date' column as the index
5. Create a line plot of the stock prices
6. Customize the plot (titles, labels, grid)
7. Display the plot

Code

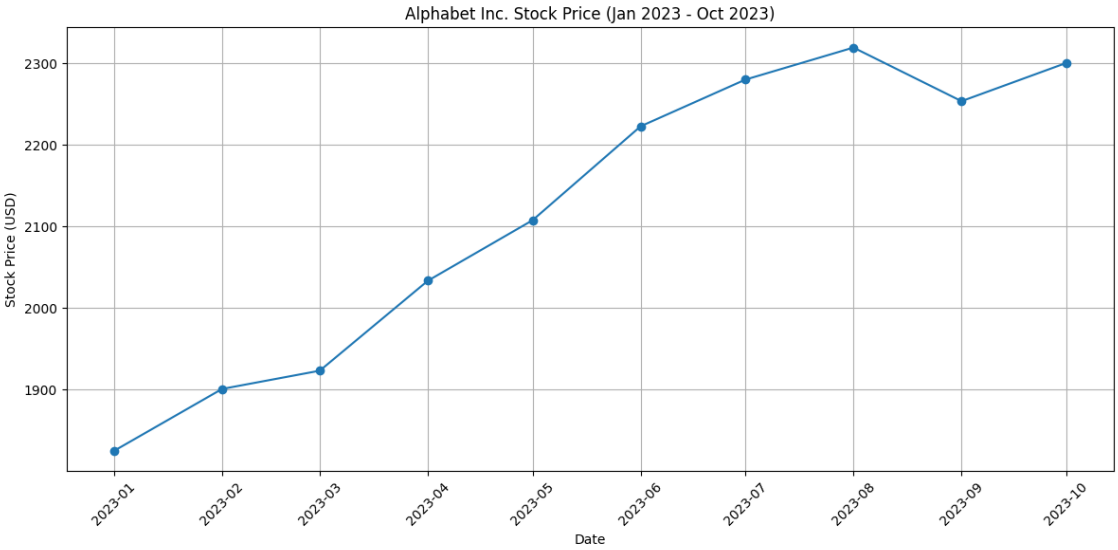
```
import pandas as pd
import matplotlib.pyplot as plt

data = {
    'Date': ['2023-01-01', '2023-02-01', '2023-03-01', '2023-04-01', '2023-05-01',
             '2023-06-01', '2023-07-01', '2023-08-01', '2023-09-01', '2023-10-01'],
    'Price': [1825.12, 1901.05, 1923.41, 2033.67, 2107.74,
              2222.93, 2280.08, 2319.39, 2253.71, 2300.50]
}

df = pd.DataFrame(data)
df['Date'] = pd.to_datetime(df['Date'])
df.set_index('Date', inplace=True)

plt.figure(figsize=(12, 6))
plt.plot(df.index, df['Price'], marker='o')
plt.title('Alphabet Inc. Stock Price (Jan 2023 - Oct 2023)')
plt.xlabel('Date')
plt.ylabel('Stock Price (USD)')
plt.grid(True)
plt.xticks(rotation=45)
plt.tight_layout()
plt.show()
```

Output



Result

The program successfully creates a line plot visualizing Alphabet Inc.'s stock price trends using Pandas and Matplotlib.